

## NECAP Science 2014 Grade 11 Release Items Prediction Chart

Item	DOK	Domain	Target	Prediction
1	2	Physical Science	<b>PS 1-1</b> Students will use physical and chemical properties as determined through an investigation to identify a substance.	
2	2	Physical Science	<b>PS 2-6</b> Students will, using information provided about chemical changes, draw conclusions about and explain the energy flow in a given chemical reaction (e.g., exothermic reactions, endothermic reactions).	
3	2	Physical Science	<b>PS 3-10</b> Students will explain the effects on wavelength and frequency as electromagnetic waves interact with matter (e.g., light diffraction, blue sky).	
4	2	Physical Science	<b>PS 1-3</b> Students will explain how properties of elements and the location of elements on the periodic table are related.	
5	2	Earth/Space Science	<b>ESS 1-2</b> Students will trace the development of the theory of plate tectonics or provide supporting geologic/geographic evidence that supports the validity of the theory of plate tectonics.	
6	1	Earth/Space Science	<b>ESS 3-6</b> Students will provide scientific evidence that supports or refutes the “Big Bang” theory of how the universe was formed.	
7	1	Earth/Space Science	<b>ESS 3-8</b> Students will explain the relationships between or among the energy produced from nuclear reactions, the origin of elements, and the life cycles of stars.	
8	2	Life Science	<b>LS 2-3</b> Using data from a specific ecosystem, students will explain relationships or make predictions about how environmental disturbance (human impact or natural events) affects the flow of energy or cycling of matter in an ecosystem.	
9	2	Life Science	<b>LS 4-9</b> Students will use evidence to make and support conclusions about the ways that humans or other organisms are affected by environmental factors or heredity (e.g., pathogens, diseases, medical advances, pollution, mutations).	
10	2	Life Science	<b>LS 4-10</b> Students will explain how the immune system, endocrine system, or nervous system work and draw conclusions about how systems interact to maintain homeostasis in the human body.	

## NECAP Science 2014 Grade 11 Inquiry Items Prediction Chart

Item	DOK	Domain	Target	Prediction
1	3	Inquiry	<b>INQ 1</b> Analyze information from observations, research, or experimental data for the purpose of formulating a question, hypothesis, or prediction.	
2	2	Inquiry	<b>INQ 3</b> Make and describe observations in order to ask questions, hypothesize, make predictions related to topic.	
3	2	Inquiry	<b>INQ 9</b> Collect sufficient data to study question, hypothesis, or relationships.	
4	2	Inquiry	<b>INQ 10</b> Summarize results based on data.	
5	2	Inquiry	<b>INQ 5</b> Develop an organized and logical approach to investigating the question, including controlling variables	
6	3	Inquiry	<b>INQ 12</b> Use evidence to support and justify interpretations and conclusions or explain how the evidence refutes the hypothesis.	
7	2	Inquiry	<b>INQ 11</b> Analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous.	
8	3	Inquiry	<b>INQ 13</b> Communicate how scientific knowledge applies to explain results, propose further investigations, or construct and analyze alternative explanations.	